

# Three years of the OCRA methodology in Brazil: critical analysis and results

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**Abstract:** The Authors make a detailed analysis of the introduction of the OCRA Methodology in Brazil that started in August 2008 with the launching of the “OCRA Book” translated to Portuguese. They evaluate the importance of the assessment of the exposure of the upper limbs to the risk due to repetitive movements and efforts, according to the national and international legislation, demonstrating the interconnection of the OCRA Methodology with the Regulating Norms of the Ministry of Labor and Work (NRs – MTE), especially with the NR-17 and its Application Manual. They discuss the new paradigms of the OCRA Method in relation to the classic paradigms of the ergonomic knowledge. They indicate the OCRA Method as the tool to be used for the confirmation or not of the New Previdentiary Epidemiologic Nexus NTEP/FAP. The Authors present their conclusions based on the practical results the “participants certified by the OCRA Methodology” achieved in the application on different labor activities in diverse economic segments, showing the risk reduction and the productivity of the companies.

Keywords: ergonomics, work-related musculoskeletal disorders, risk assessment x repetitive movements.

## 1. Introduction

The OCRA Method was first presented in Brazil in 1995, still in its embryonic phase, by the Profs. Antonio Grieco, Enrico Occhipinti and Daniela Colombini, of the “Clinica del Lavoro” of Milan University / “EPM – Unit of Ergonomic Research of Posture and Movement”.

Edoardo Santino and Ruddy Facci, impressed by this initial research, became interested in the methodology and started to attend EPM to understand the whole evaluation process and the use of the software. Starting in 1995 they traveled several times to Milan, and in 2006 the idea of the creation of the “Escola OCRA Brasileira” started, and was concretized in 2007 when Eduardo Marcatto joined the Brazilian doctors. The Authors comment on the difficulties for the translation of the book “OCRA Method” from Italian to Portuguese, due to the introduction of terms not yet used in the ergonomics and mainly to the adaptation of the adaptation of the Italian technical terminology to the Brazilian; the original spreadsheets and software were totally adapted to the computing systems that are most used nationally. In the 2008 the official launching of the OCRA Book in Brazil happened, during an event

with the presence of the Italian authors. In January 2009 the OCRA courses started in Brazil.

A qualitative and quantitative research was done of the dissemination of the new ergonomic knowledge in Brazil, among autonomous professionals and organizational entities, through theoretical and practical training sessions of the OCRA Methodology. OCRA. There is a statistical evaluation of the number of OCRA courses given during this period, with the objective of acknowledging the ones that have been “approved” by the international system of OCRA evaluation and certification.

## 2. Methods

From January 2009 to August 2011 23 OCRA courses were given, 21 of them CHECK LIST OCRA (basic level) and 2 INDICE OCRA (second level), with some *in company* and others by enrollment. 345 professionals of diverse knowledge areas have participated in the OCRA courses, as follows:

- Occupational Safety..... 34.0%
- Occupational Health..... 28.0%
- Physiotherapy..... 16.0%

- Ergonomics..... 5.0%
- Chronoanalysis..... 5.0%
- Orthopedics..... 4.0%
- Fiscal Audit of the Ministry of Labor.... 3.0%
- Judicial Inspection..... 2.0%
- Occupational Nursing..... 1.0%
- Administration ..... 0.5%
- Prosecutor's Office of the Public Labor  
Ministry.....0.5%
- Human Resources ..... 0.25%
- Union..... 0.25%
- Architecture..... 0.25%
- Law..... 0.25%

The methodology of the courses followed the principles and the instructions of the Italian OCRA school / EPM to the letter, which are:

- 1- prior study of 9 (nine) chapters of the OCRA Book
- 2- 16 (sixteen) hours of classes requiring attendance, with evaluation through a test given at the end.
- 3- evaluation of the course by the participants, through a written questionnaire.
- 4- practical test taken by the participant within 30 (thirty) days of the end of the course. This test is standardized by the EPM for all the OCRA schools.
- 5- evaluation by the teachers of the Escola OCRA Brasileira of the results of the practical tests.
- 6- delivery of the certificates to the participants who achieved the level required by EPM.

### 3. Results

Independently of the different Professional areas of the participants, the understanding and learning of the OCRA Method was very similar, varying in some specific areas.

The interest of each participant was directed to his own Professional activity, with the professionals of the technical areas (work safety / medicine, nursing, occupational physiotherapy, ergonomy) interested in the practical application of the method in the companies, as their employees or consultants; of the government/ministerial area (auditors and prosecutors), the interest was to get to know the methodology well to use it in supervisions and Law suits; judicial experts, lawyers and union members were also interested in the knowledge of the method and its use in the labor law suits and/or union agreements; the other professionals were interested in the knowledge.

The applicability of the OCRA Method was well accepted by the technical professionals, with reports

of good results in the companies and significant risk reduction without alterations in the productivity.

The items in the evaluation of the courses that the participants answered were related to the knowledge of the teachers, acquired knowledge, quality of the material, content and duration of the courses. The results showed:

- knowledge of the teachers = excellent
- new knowledge acquired = 95%
- quality of the material = very good
- content of the course = very good
- length of the course = satisfactory, could be longer.

Of the 345 participants, 97% were trained (approved in the final test) and the remaining 3% did not take the practical test, for reasons unknown to the Escola OCRA Brasileira.

As a final conclusion, the Authors consider that the OCRA Method attend to the needs for the evaluation of the exposure of the upper limbs to the risk due to repetitive movements and efforts, responding well to the requirements of the legislation, mainly NR-17 and its Application Manual is easy to use by different professionals, presenting good results in the short term with proposals of improvements at a low cost.

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